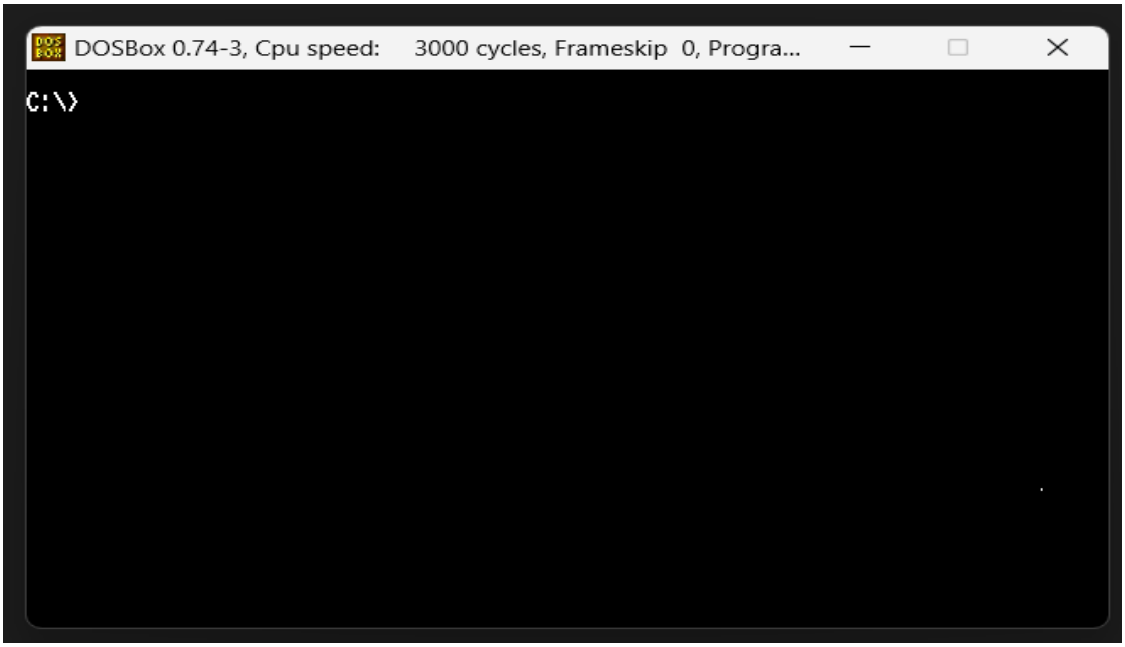
Q.1.

; Write an assembly language program to display a pixel on the screen.

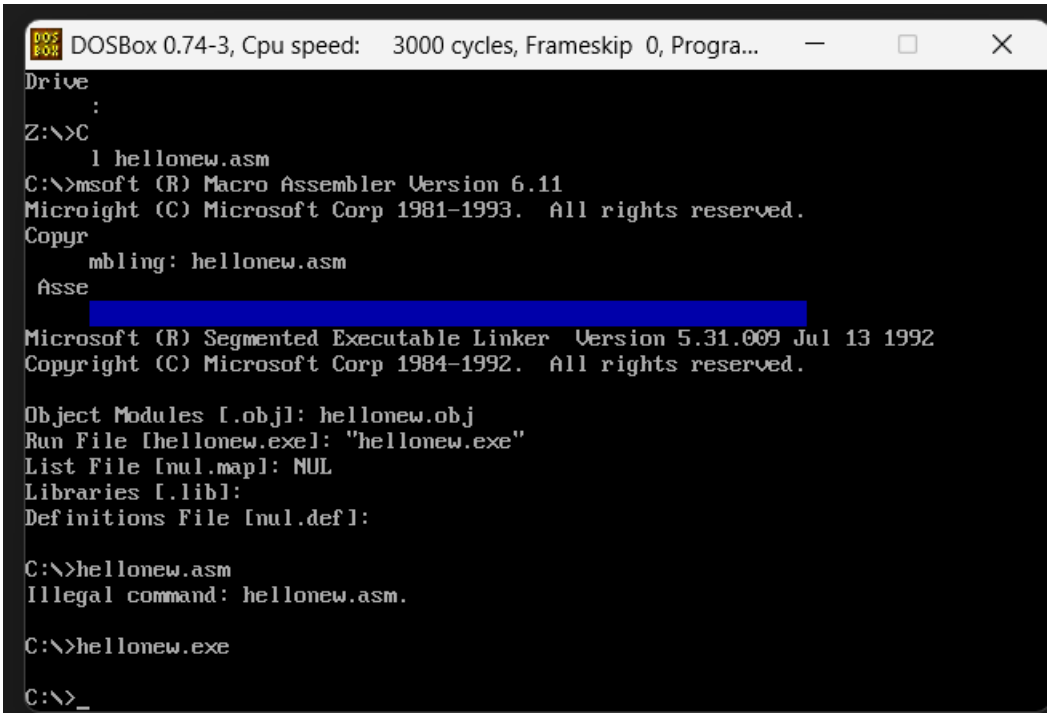
```
dosseg
.model small
.stack 100h

.data

.code

main proc

; setting the graphic mode

mov ah,0h ; video mode is being set
mov al,6h
int 10h

;displaying the pixel
mov ah,0ch
mov al,1h  ; white color ky liyay
mov cx,600  ; col
mov dx,150  ; row
int 10h


mov ah,4ch
int 21h


main endp
end main
```



Q.2.

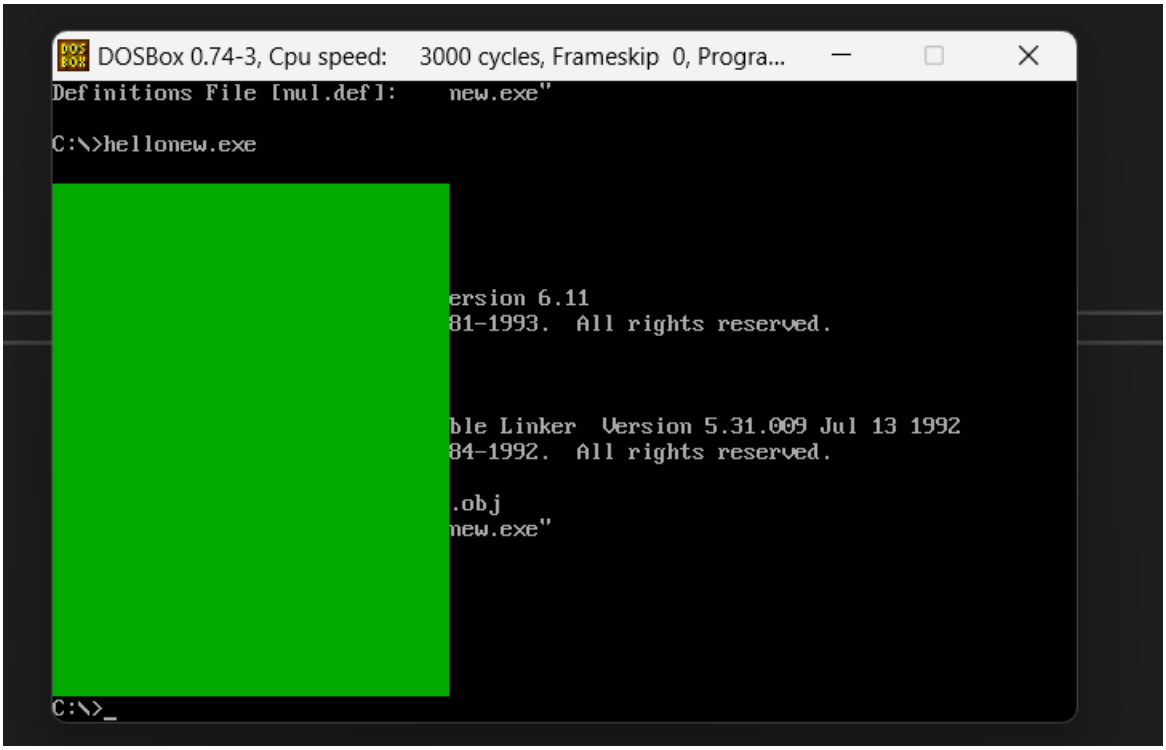
;Write an assembly language code to draw a line on the screen.

```
dosseg
.model small
.stack 100h

.data

.code

main proc

mov ah,6
mov al,1
mov bh,00010000b
mov ch,0
mov cl,5

mov dh,10
mov dl,60
int 10h


mov ah,4ch
int 21h
main endp
end main
```



Q.3.

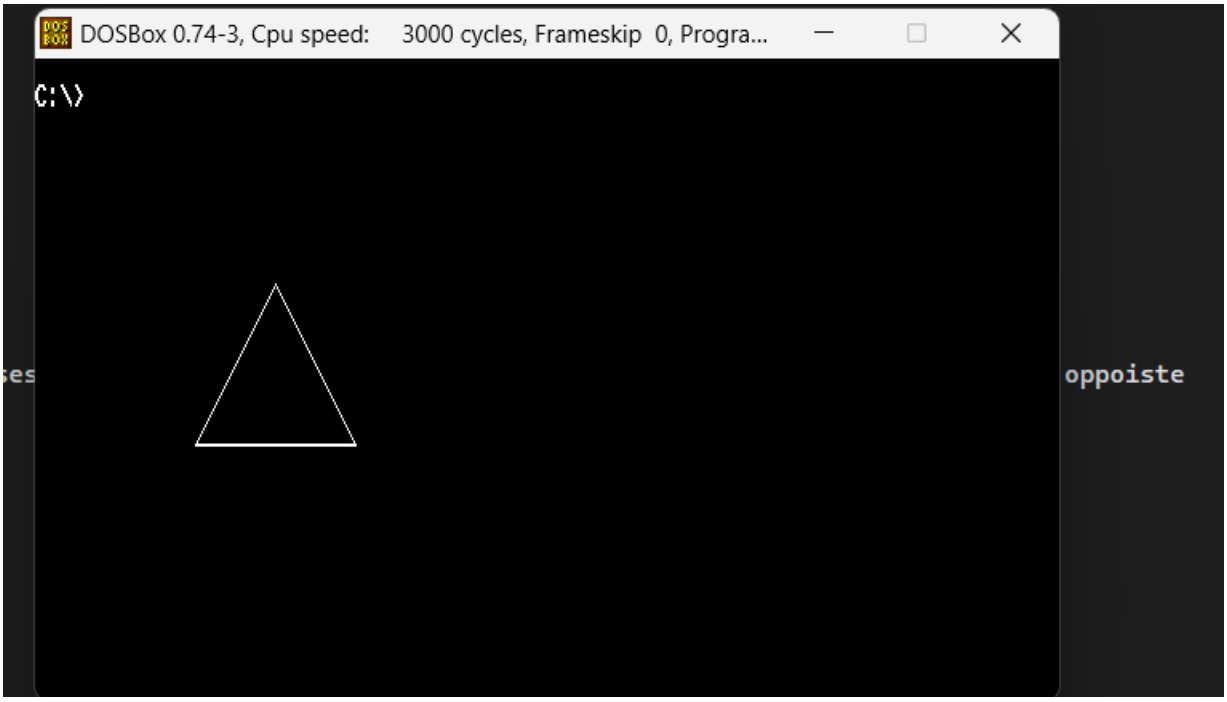
```
;Write an assembly language code to draw a square on the screen.

dosseg
.model small
.stack 100h

.data

.code

main proc

mov ah,6
mov al,20
mov bh,00100000b
mov ch,0
mov cl,0
mov dh,30
mov dl,30
int 10h


mov ah,4ch
int 21h


main endp
end main
```



Q.4.

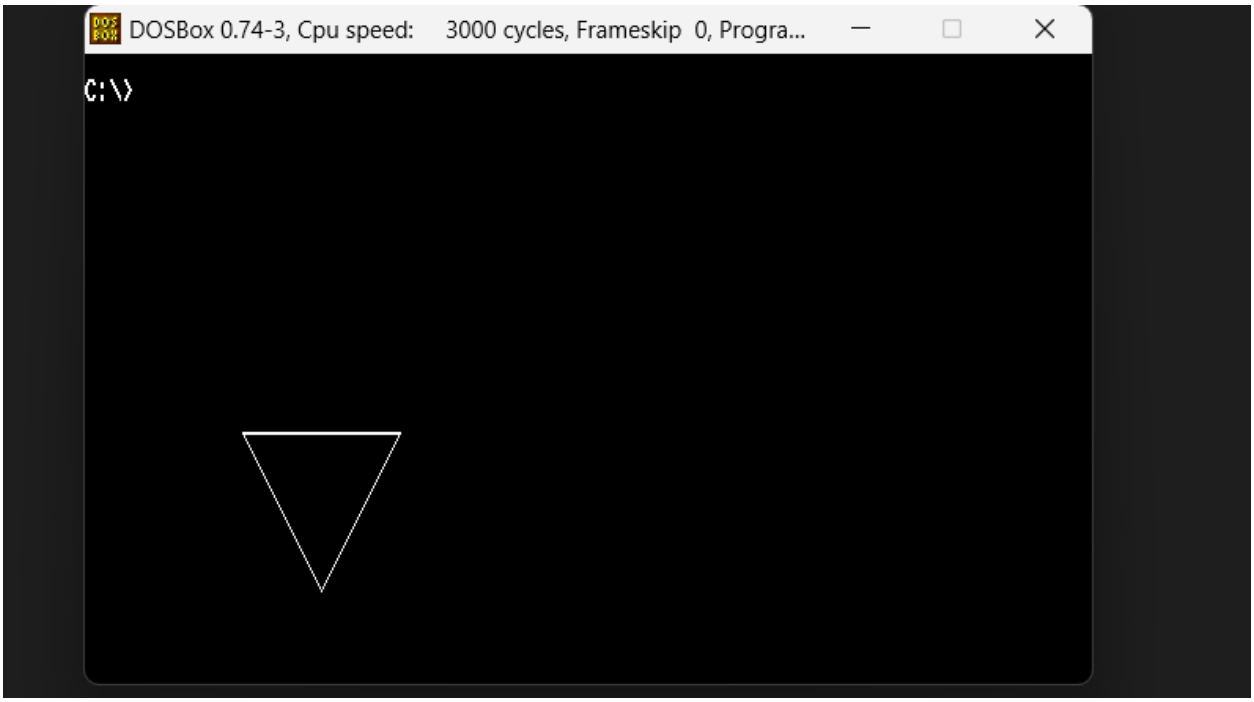
```
.model small
.stack 100h
.data
	x dw 100
	y dw 120
	temp dw ?
.code
main proc
	mov ax,@data
	mov ds,ax
	mov ah,0
	mov al,6
	int 10h

	mov cx,100

	horizontal_line:

		mov temp,cx
		mov ah,0ch
		mov al,0Dh
		mov cx,x
		mov dx,y
		inc x
		int 10h
		mov cx,temp

	loop horizontal_line

		mov cx,50
```

```
      left_line:

            mov temp,cx
            mov ah,0ch
            mov al,0Dh
            mov cx,x
            mov dx,y
            dec x
            dec y    ; we decrement here intead of increment as dec causes moveing
upwards while inc cause y to move downwards , kind of like oppoiste
            int 10h
            mov cx,temp

      loop left_line

            mov cx,50

      rightline:

            mov temp,cx
            mov ah,0ch
            mov al,0Dh
            mov cx,x
            mov dx,y
            dec x
            inc y
            int 10h
            mov cx,temp

      loop rightline


      mov ah, 4ch
      int 21h
main endp
end main
```




```
.model small
.stack 100h
.data
	x dw 100
	y dw 120
	temp dw ?
.code
main proc
	mov ax,@data
	mov ds,ax
	mov ah,0h
	mov al,6h
	int 10h

	mov cx,100

	horizontal_line:
		mov temp,cx
		mov ah,0ch
		mov al,0Dh
		mov cx,x
		mov dx,y
		inc x
		int 10h
		mov cx,temp
	loop horizontal_line



		mov cx,50

	rightline:
		mov temp,cx
		mov ah,0ch
```

```
            mov al,0Dh
            mov cx,x
            mov dx,y
            dec x
            inc y
            int 10h
            mov cx,temp
      loop rightline

      mov cx,50

      left_line:
            mov temp,cx
            mov ah,0ch
            mov al,0Dh
            mov cx,x
            mov dx,y
            dec x
            dec y    ; we decrement here intead of increment as dec causes moveing
upwards while inc cause y to move downwards , kind of like oppoiste
            int 10h
            mov cx,temp
      loop left_line


      mov ah, 4ch
      int 21h
main endp
end main
```



Q.5.

```
.model small
.stack 100h
.data
	x dw 50
	y dw 50
	r dw 10

	center_y dw 100
	center_x dw 100

	rightSide dw ?
	leftSide dw ?

	x_m dw ?
	y_m dw ?


.code
main proc
	mov ax,@data
	mov ds,ax
	mov ah,0h
	mov al,6h
	int 10h

	mov cx,360


	;(x-r)^2 + (y-r)^2 <= r^2

	l1:
		push cx

		mov ax,r
		mov bx,r
		mul bx
		mov rightSide,ax

		mov ax,x
		sub ax,r

		mov bx,ax
		mul bx
		mov x_m,ax


		mov ax,y
		sub ax,r

		mov bx,ax
		mul bx
		mov y_m,ax

		mov ax,x_m
		add ax,y_m
```

```
                mov leftSide,ax

                mov ax,leftSide

                cmp ax,rightSide

                jle here

                jmp overhere

                here:
                        mov ah,0ch
                        mov al,0fh
                        mov cx,x
                        mov dx,y
                        inc x
                        int 10h

                overhere:
                        inc x
                        inc y
                        pop cx

        loop l1

        mov ah,4ch
        int 21h
main endp
end main
```